

Multifunction Peripherals

Why pay for a printer, scanner and copier separately when you can buy one versatile machine that combines all three? We test nine devices that save you desk space and money without cutting corners

Computers aren't much use without peripherals such as a monitor or a broadband modem. Most PC users find they also need a printer. Buy a scanner as well, though, and your tidy desk could soon disappear from view under plastic boxes and USB cables.

A multifunction peripheral, or MFP, combines a printer and scanner in one neat box. This is often a little larger than an equivalent printer, but you can use it to print, scan and make copies of your documents. Some MFPs also

work as fax machines. A printer of this kind could be the only peripheral a small business or home office will ever need.

This month we've gathered together nine different MFPs from five manufacturers. Some are ideal for general use, some are great for printing digital photos, and some come with an automatic document feeder and fax modem, making them perfect for a small office. Prices range from £53 to £160 including VAT. Whatever your budget, you're sure to find your perfect MFP in the next few pages.

IN THIS REVIEW

Brother MFC-425CN
Canon PIXMA MP150
Canon PIXMA MP500
Epson Stylus DX4800
Epson Stylus Photo RX520
HP OfficeJet 6210
HP PSC 1510
Lexmark P4350
Lexmark X7170





CHOOSING A... MULTIFUNCTION PERIPHERAL

An MFP combines three or four functions in one, so there's a lot to think about before you buy. Take some time to decide which functions matter most to you and use our buying guide to optimise these

Choosing an MFP can be a little daunting, as you have to look into both print and scan performance to make an informed decision. Provided each is up to scratch, you should get decent prints, scans and copies.

The nine devices we've tested here reflect the diversity of the products on the market. Some, such as Canon's PIXMA MP150, are low-cost, general-purpose devices. Others, such as HP's OfficeJet 6210, provide a fine set of features for business users. Lexmark's P4350 is one of three photo-orientated devices on test; it's also incredibly affordable.

TYPE CASTING

Before you buy an MFP, you should think about why you need it. If you don't want to print photos from a digital camera's memory card, there's no point paying for a product with card slots and a preview screen. But if you print and scan plenty of photos, you should consider a multifunction device that's built with creative users in mind.

If you need to send and receive faxes and your PC doesn't have its own fax modem, choose an MFP that does. The three office-orientated devices here all install a second print driver, which allows you to send a fax directly from most Windows applications. They also work as standalone fax machines. We tested them by sending a two-page fax and were pleased with the results. Each device has an automatic document feeder (ADF), which automatically pulls documents through the scanner. This helps them to send long faxes or make unattended copies of a big document. However, we were disappointed that when creating multi-page copies, all three reversed the page order.

QUALITY CONTROLS

In this test we've concentrated on MFPs that have inkjet printers. These are more affordable than laser-based alternatives, particularly if you want to print in colour. The quickest inkjets can reach 20 pages per minute (ppm) or more, but the fastest MFP here reached only 14.1ppm in our tests. Inkjets need to

HOW WE TESTED

MFPS have plenty of abilities, so they take a lot of testing. We subjected each of the nine devices in this month's Labs review to our full suite of print and scan tests before assessing their copy performance.

To test plain paper speed and quality, we printed a 50-page document at the printer's draft or fast setting, repeating this using duplex (double-sided) printing where available. We printed 50 copies of a letter at a suitable quality for formal correspondence, and used the same setting to print our graphics-rich 24-page mixed colour test. We printed two 10x8" photographs and six 6x4" photographs on the manufacturer's own coated photo paper. We included the time

taken to spool each print job, as some drivers are quicker than others.

We made several timed document scans at various resolutions, performing all our tests with a warm scanner lamp or film backlight. To help assess colour accuracy and shade differentiation, we also scanned a reflective Q60 colour calibration target at each scanner's highest optical resolution.

Finally, we made timed mono and colour copies at the default and fastest settings, and transmitted a two-page fax across our internal phone network. The print and copy times that appear in our table on page 195 were obtained using each printer's standard ink cartridges.

slow down to achieve their highest print quality, and photo printing can be time-consuming.

Inkjets use a highly accurate set of nozzles that fire tiny droplets of ink at the page. Known as the print head, this collection of nozzles often remains in the printer while ink cartridges are replaced. With the Canon PIXMA MP150, and the Lexmark and HP devices in this test, however, each new ink cartridge carries its own set of print heads. Print heads need to be in perfect alignment for the best results. Many printers use a time-consuming manual routine for this, but the Canon, Lexmark and HP products can align themselves automatically.

MONEY TALKS

Inkjets take few consumables, so they're quite easy to set up and maintain, but they do have a reputation for being expensive to run. This isn't necessarily the case. Most of the printers in this group can produce cheaper colour pages than an entry-level colour laser. Mono pages from the most economical device here are only about half a penny

more expensive than those from a typical mono laser MFP. This said, pay careful attention to the running costs listed in our table on page 195. Colour prints from Canon's PIXMA MP150 cost 10.6p, whereas those from HP's PSC 1510 cost just five pence. This price difference can soon add up if you regularly print a lot of documents. It can be more economical in the long run to buy a more expensive device with lower running costs.

The price of inkjet cartridges can also vary dramatically between suppliers. It's normally cheaper to buy ink online, and even then it's worth shopping around. We recommend comparing the price from at least three resellers before buying.

We calculate the running cost of an inkjet using the cheapest price we can find online. If there is a choice of cartridges, we always make our calculations for the high-yield supplies, which are better value. You may be tempted to save some money by opting for third-party ink cartridges, but you should approach these with caution during the warranty period of your printer.

IN THE SHADE

It's often said that MFPs have poor scanners, but most of the devices here acquitted themselves well in our tests. Only the Brother MFC-425CN was particularly slow to capture images. Several products in the group struggled to differentiate between different dark shades, but this is a common problem for affordable scanners.

None of the MFPs here captures reflective documents such as paper or photographs at more than 1,200 dots per inch (dpi), but Epson's Stylus Photo RX520 can scan film negatives or mounted slide film at 2,400dpi. The RX520 and Canon's PIXMA MP500 both performed as well as we would expect from an affordable quality flatbed scanner.



An automatic document feeder (ADF) can help you make quick work of multiple-page copies or faxes



Multifunction peripherals often have basic scanners, but Epson's Stylus Photo RX520 can capture 35mm film



REVIEW GENERAL-PURPOSE MFP



CANON PIXMA MP150

RATING ★★★★★

PRICE £53 inc VAT

SUPPLIER www.misco.co.uk

DETAILS www.canon.co.uk

Canon's PIXMA MP150 is the cheapest MFP we've ever tested, but you wouldn't know to look at it. It's made from solid-feeling plastics and looks smarter than many of the more expensive products in this review. Other than its basic control panel, there's little to suggest this is a budget product.

Like most of the MFPs on test, the MP150 was easy to set up. Its scanner bed tilts upwards, making it simple to fit ink cartridges. Canon supplies standard-capacity black and tricolour cartridges, but the MP150 won't accept high-capacity ink cartridges. Each standard cartridge is rated for less than 200 pages, and the MP150's print costs are the highest in this group.

This is a shame, because the MP150 performed strongly in all our tests. It was quick to print draft and letter-quality text on plain paper, and was the fastest printer in our photo tests. Print quality was generally very good, too, and even the Fast print mode produced crisp, solid text. Photos had a slight beige colour cast, but little visible grain.

Given the MP150's budget price, we wondered if its scanner would match up to the printer's high standard; it proved to be one of the fastest on test. It captured sharp images with accurate colours and preserved subtle differences in very dark and light shades. With its quick printer and scanner, we weren't surprised the MP150 was the fastest mono copier here.

VERDICT

The MP150 is a simple MFP, but it's amazingly capable for the price. It makes a great printer, scanner and copier yet costs little more than most entry-level inkjets. Unfortunately, it has high running costs so unless you print very rarely it isn't quite the bargain it first seems.

✓ Extremely low price; strong all-round performance

✗ Frustratingly high running costs

SPECIFICATIONS 4,800x1,200dpi print resolution, 1,200x2,400dpi scan resolution, USB Hi-Speed and PictBridge USB interfaces.

Part code 0575B007AA

REVIEW GENERAL-PURPOSE MFP



HP PSC 1510

RATING ★★★★★

PRICE £73 inc VAT

SUPPLIER www.savastore.com

DETAILS www.hp.co.uk

HP makes a large range of MFPs, of which the PSC 1510 is the second most affordable. This MFP has a basic control panel and no memory card slots, but it does include a PictBridge USB port for direct printing from a digital camera.

The PSC 1510 won't accept HP's 800-page black or 450-page tricolour cartridges, but it does use the regular-yield supplies. With these, running costs are low. Printing in mono, the PSC 1510 is three times as cheap as the Canon PIXMA MP150, and more than twice as cheap in colour. Head alignment is automatic.

Paper travels in a U-path through the printer, with sheets coming tidily to rest in the correct order above the input pile. This was one of the quickest products in our tests, producing high-quality results on plain paper. Photographs were quite grainy, but for £14 you can buy a photo cartridge that enables six-ink printing.

While the PSC 1510's printer compares well to the others in this group, its scanner is less impressive. It's relatively speedy but produced only average results. Some detail was lost from dark and light areas of test scans. Images appeared to have been digitally sharpened, even though we had deselected this in the clunky TWAIN interface. The lid's hinges don't allow it to close flat on over-sized originals.

Like the OfficeJet 6210 reviewed on page 193, the PSC 1510 seems to use copy enhancements that introduced strange errors into our test copies. Unfortunately, there didn't seem to be an option to turn them off.

VERDICT

The PSC 1510 isn't the cheapest MFP here, but it won't take long before its low running costs make it better value than the PIXMA MP150. It's a shame, then, that its scanner lets it down.

✓ Affordable; cheap to run; decent print quality

✗ Scans and copies could be better; annoying scan interface

SPECIFICATIONS 4,800x1,200dpi print resolution, 1,200x1,200dpi scan resolution, USB and PictBridge USB interfaces.

Part code Q5880B

REVIEW GENERAL-PURPOSE MFP



EPSON Stylus DX4800

RATING ★★★★★

PRICE £86 inc VAT

SUPPLIER www.dabs.com

DETAILS www.epson.co.uk

This Epson multifunction costs well under £100, but it's more expensive than the other budget devices in this group. It feels quite sturdy, but it doesn't look as smart as the PIXMA MP150 or Epson's own Stylus Photo RX520.

Although it isn't specifically aimed at photo users, the DX4800 has memory card slots and a PictBridge port. We found it tricky to insert an SD card for our tests, though. The DX4800 has no preview screen, but it does have a simple proof sheet system for selecting prints.

Both the Epson MFPs in this test use four separate ink tanks and have reasonable running costs. The DX4800 can print a mono page for as little as two-and-a-half pence, but our research showed the importance of shopping around for ink cartridges. We found the price of each genuine cartridge for the DX4800 varied between £5.75 and nearly £11.

This MFP proved to be one of the slowest in the group when printing on plain paper. As with the Stylus Photo RX520, we weren't satisfied with the quality of the draft text and ran our 50-page document test at the printer's Text setting. Output quality was fairly good at higher settings, but there seemed to be more noticeable grain towards the left of A4 colour prints.

The DX4800 has a great scanner for the price, but its document mat had trouble holding creased originals flat against the scanner glass. This resulted in a slight blue cast in some regions of our A4 scans. This wasn't evident in copies, though, which were among the best in the group.

VERDICT

Despite having a slow printer, the DX4800 isn't a bad MFP. It has a great scanner and won't cost too much to run. But at this price, it doesn't particularly stand out.

✓ Decent scanner; low mono print costs

✗ More expensive than other budget models; slow printer

SPECIFICATIONS 5,760x1,440dpi print resolution, 1,200x2,400dpi scan resolution, USB Hi-Speed and PictBridge USB interfaces.

Part code C11C610012



REVIEW PHOTOGRAPHY MFP

LEXMARK
P4350

RATING ★★★★★

PRICE £60 inc VAT

SUPPLIER www.savastore.comDETAILS www.lexmark.co.uk

Like the PIXMA MP150, Lexmark's P4350 seems astonishingly good value. Although it costs slightly more than the PIXMA and doesn't feel as solid, it has an LCD screen and memory card slots that support all the most common formats.

The P4350 takes two ink cartridges and can be configured with a four- or six-ink setup. Unusually, however, it arrives with a tricolour and photo cartridge, giving it six-ink printing out of the box. Without a black ink cartridge, which costs around £20, the P4350 is slow when printing regular plain paper documents.

The times in our table on page 195 were recorded using the standard cartridges, but the P4350 was quicker when we replaced its photo cartridge with a black one. It completed our draft text test at 11.5ppm and our mixed-colour test 10 minutes sooner than when using six inks. The running costs using four inks, as recorded in our table, are reasonable for a budget device.

Unfortunately, we weren't happy with the P4350's print quality using either setup. Text printed using the black ink cartridge had diffuse outlines. Photos printed with six inks were also disappointing, with the exception of a good black and white photo print.

The P4350's scanner isn't any better. It failed to preserve detail in the darker regions, and many colours in our calibration target test were oversaturated. Copies made with the six-ink setup were quick, but had heavy banding.

VERDICT

Reasonable running costs and an amazingly low price make the P4350 seem like a bargain. It's easy to use and has great direct photo printing features. But discerning users won't be satisfied with prints, scans or copies that just don't measure up to the competition.



Extremely cheap; reasonable running costs; easy to use



Inferior prints, scans and copies

SPECIFICATIONS 4,800x1,200dpi print resolution, 600x2,400dpi scan resolution, USB Hi-Speed and PictBridge USB interfaces. Part code 22D0002

REVIEW PHOTOGRAPHY MFP

EPSON
Stylus Photo RX520

RATING ★★★★★

PRICE £120 inc VAT

SUPPLIER www.dabs.comDETAILS www.epson.co.uk

We've criticised the appearance of some Epson MFPs, but the Stylus Photo RX520 is one of the best-looking products in this group. Its controls are gathered neatly around a small LCD screen and well-chosen grey plastics make it look classy.

It's easy to set up, but nearly a foot of cable is needed to reach the USB port concealed beneath the scanner bed. This is the most expensive product here with a manual print head alignment routine. It's fairly easy to follow, but it takes time and involves printing three pages.

Whatever the task, the RX520's printer doesn't like to be rushed. It's capable of printing draft text at a reasonable rate, but the faint and blocky results just aren't good enough. We ran our draft test at the Text quality setting, which slowed the RX520 to just 3.3ppm.

At higher – and slower – quality settings, it is capable of high print quality. It has only four ink colours, but we were very happy with its photo prints, which showed little grain and good fine detail. Prints made from a memory card were grainier, however, and the direct printing and copying menu could be easier to understand.

Capturing images directly from film negatives involves a backlight, which shines through the film so the scan head can see the image it contains. It's rare to find this feature on an MFP, and the RX520 is the only product here that can scan 35mm film. Despite a maximum colour depth of just 24 bits, it captured excellent images from both reflective and film sources.

VERDICT

Only a few months ago, the RX520's price would have made it good value. However, competition among manufacturers is fierce. Lexmark's P4350 can't match the quality of the RX520's results, but it's similarly specified and costs half as much.



Excellent scanner; cheap mono printing



Slow printer; confusing direct print menu

SPECIFICATIONS 5,760x1,440dpi print resolution, 2,400x2,400dpi scan resolution (film), USB Hi-Speed and PictBridge USB interfaces. Part code C11C613002

REVIEW PHOTOGRAPHY MFP

CANON
PIXMA MP500

RATING ★★★★★

PRICE £160 inc VAT

SUPPLIER www.savastore.comDETAILS www.canon.co.uk

Canon's PIXMA MP500 is the most expensive MFP on test, but it does have the most highly specified printer. It uses black, cyan, magenta and yellow dye inks, with an additional black pigment ink for text printing and increased contrast in very dark regions of photos. It prints at four times the resolution of many consumer inkjets.

High specifications don't necessarily make a printer better, though, and they can be a bit misleading. The MP500 didn't even reach half of its rated 29ppm in our tests. Nonetheless, its printer is superb. It performed well in all our tests.

Print quality on plain paper was very good, and the MP500's sharp, detailed and grain-free photos were the best in the group. Prints made directly from a memory card had far less grain than those from the Epson RX520 or Lexmark P4350, although we found the memory card slots tricky to access.

The MP500 has two paper inputs, so you can keep plain paper in one and photo paper in the other. It can print automatically to both sides of a sheet of paper, but duplex prints are slightly faint. Its running costs are disappointingly high, particularly when printing colour pages.

Although it can't scan film, the MP500's scanner matches that of the Epson RX520 for quality and speed. It captures sharp images and recorded impressive levels of detail in deeply shaded areas of our tests. The MP500 was the quickest colour copier here and its default copy quality setting produced terrific results.

VERDICT

If you need an MFP for creative work but don't need to scan any film, the MP500 is the best device in this test. However, it is a little expensive, and at this price it should have lower running costs.



Great printer with automatic duplex; fast, high-quality scans and copies



Pricy; expensive print costs, especially in colour

SPECIFICATIONS 9,600x2,400dpi print resolution, 1,200x2,400dpi scan resolution, USB Hi-Speed, PictBridge USB and IrDA infrared interfaces. Part code 0579B007AA



REVIEW OFFICE MFP



HP OfficeJet 6210

RATING ★★★★★
PRICE £135 inc VAT
SUPPLIER www.dabs.com
DETAILS www.hp.co.uk



The OfficeJet 6210 can send and receive faxes and has a 20-page automatic document feeder (ADF). It has no memory card slots, but digital camera owners can make direct prints using its PictBridge USB port.

This is a smart and compact MFP, but although it feels well-made the scanner lid is flexible. As with the PSC 1510, the hinges don't keep the lid parallel to the scanner glass when capturing thick documents. The printer's input and output trays feel a little too flexible, and loading plain paper can be awkward.

Like many HP products, the install program offers just two installation options. The smallest of these requires 365MB of disk space. HP's TWAIN scan interface isn't as easy to use as those provided by other manufacturers, and doesn't automatically save the last preview or remember scan settings between sessions.

In use, the OfficeJet 6210 makes up for these irritations. Its printer is one of the best in this group, producing high-quality plain paper results very quickly. Photos print with a bit of grain, but the 6210 isn't aimed at photographers. Its scanner produced similar results to the PSC 1510, but its quality is fine for office work.

The 6210 applies enhancements to try to improve copy quality, but the default Mixed setting produced some strange results. Making fast mono copies of large coloured text produced an inaccurate mix of dark and light letters. We had to switch off the enhancements to fix this.

VERDICT

The OfficeJet 6210 is excellent value for home or small office users who need an MFP that does it all. Its impressive printer is cheap to run and its ADF helps make it a powerful copier and fax machine.

✓ Excellent printer; low running costs; good value

✗ Average scanner with awkward interface; flimsy in places

SPECIFICATIONS 4,800x1,200dpi print resolution, 1,200x4,800dpi scan resolution, USB and PictBridge USB interfaces.
Part code Q5801B

REVIEW OFFICE MFP



LEXMARK X7170

RATING ★★
PRICE £135 inc VAT
SUPPLIER www.misco.co.uk
DETAILS www.lexmark.co.uk

Lexmark's X7170 costs the same as the HP OfficeJet 6210 and it has similar specifications, but it doesn't look as smart and compact. Its scanner lid can close parallel on thick documents, but it feels even less sturdy than the OfficeJet's flexible lid. The stiff, basic hinges on our test unit made opening and closing the lid feel horrible.

The X7170 has the highest capacity ADF of the three office devices. Like the other two, it printed multiple-page copies in reverse order when copying so the first page was at the back. Copy quality was just about acceptable.

The X7170 produced text documents on plain paper faster than the other devices, but we weren't impressed with the quality. Characters appeared solid black, but the outlines were quite scruffy. It printed our mixed-colour document at reasonable speed, but graphics showed banding. Photographs were fairly grainy.

Images captured by the X7170's scanner were a little soft and some dark colours appeared washed-out. The scanner did well with subtly different light shades, but couldn't tell the very darkest shades apart in our colour target test.

At 1,200 dots per inch (dpi), our 6x4" photo scan test produces an image file of around 100MB. When we attempted this test, Lexmark's scan interface reported that the scan file size was too large for the available virtual memory. This seemed odd, as our test computer had more than 660MB of physical memory free.

VERDICT

The X7170 is quick at everything it does, but most of the other devices here produced better quality prints, scans and copies. On paper this MFP appears to be a close rival to HP's OfficeJet 6210, but the compact OfficeJet is smarter, more capable and costs less to run.

✓ Fast printer; high-capacity paper trays and ADF; reasonable colour costs

✗ Below-par prints, scans and copies; feels poorly built

SPECIFICATIONS 4,800x1,200dpi print resolution, 1,200x4,800dpi scan resolution, USB and PictBridge USB interfaces.
Part code 21H0002

REVIEW OFFICE MFP



BROTHER MFC-425CN

RATING ★★★
PRICE £137 inc VAT
SUPPLIER www.dabs.com
DETAILS www.brother.co.uk

Brother's MFC-425CN is the most compact device in this test. It's the size of a sofa cushion, but it can print, scan, copy and fax. It also has memory card slots for direct photo printing.

This is the only MFP in the group with an Ethernet network port, so it's easy to share among several users on a home or small office workgroup. Brother's installation program automatically found it on our test network and it was no more difficult to set up than the other devices here. All the MFC-425CN's features can be accessed across the network, including the fax modem, scanner and card slots.

On the surface the MFC-425CN seems ideal for a busy small office. Sadly, it proved disappointing in many of our tests. Its printer was one of the slowest here, particularly when printing in colour. Its plain paper print quality was acceptable for an office-orientated device, but the MFC-425CN's photo prints weren't great. Making prints directly from a memory card wasn't straightforward, and the results were so grainy that it seemed a waste of time. This is the only device with no PictBridge USB port.

This MFP's scanner is fine for typical office applications and its ADF helps it deal well with multi-page jobs, but we weren't happy with its image quality in some of our more exacting tests. It was very slow and fared the worst at preserving shade detail. It did better in our copy test, producing decent results quickly.

VERDICT

The MFC-425CN is compact, affordable and cheap to run, and it comes with some useful software. It can perform an impressive range of functions, but its slow printer and poor scan quality are disappointing. We'd recommend it only if you need its network functions.

✓ All functions work across a network; good value; low print costs

✗ Slow and sub-standard prints and scans

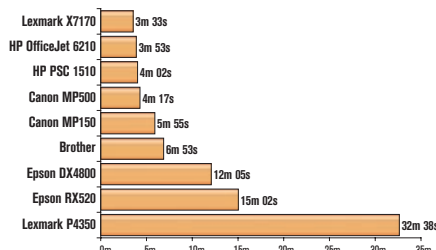
SPECIFICATIONS 6,000x1,200dpi print resolution, 600x2,400dpi scan resolution, USB and 10/100Mbps Ethernet interfaces.
Part code MFC425CNU1



BENCHMARKS

Mono Printing Text and letters

50 pages text

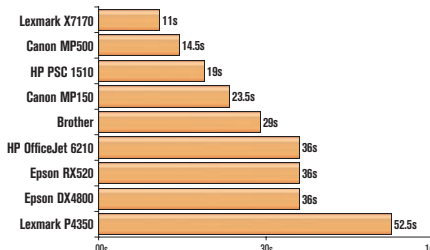


SETTINGS: Fastest available non-economy print mode

This mono text document contains 50 pages from *Alice in Wonderland*. It's designed to test

a printer's maximum speed. We use the driver's fastest setting, provided the print quality is acceptable for general personal use.

Letter, time to first page

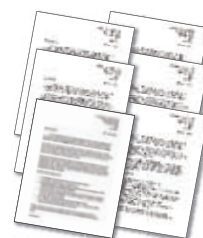
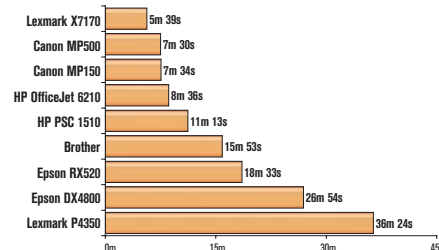


SETTINGS: Good-quality plain paper settings

We print 50 copies of this single-page letter at a quality suitable for formal correspondence on

everyday paper. For most printers, this means using their default plain paper settings. We time the interval between submitting the print job and the

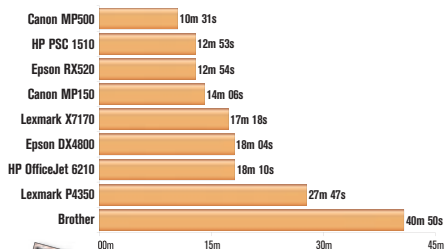
Letter, 50 copies



first page appearing in the printer's output tray. We also record the overall time for 50 copies. We don't include warm-up times for laser printers, as we time those separately.

Colour Printing Documents and photos

Mixed colour document

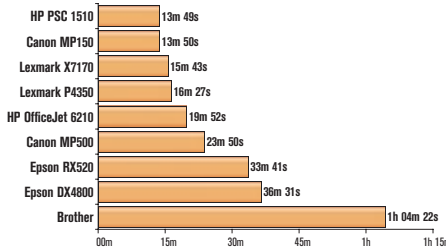


SETTINGS: Good-quality plain paper settings

This 24-page mixture of graphics-rich office, web and magazine pages gauges a printer's ability to

deliver everyday colour with reasonable quality and speed. This is a plain paper test, so we don't use the maximum resolution, but prints should be of adequate quality to share with others.

Six 6x4" photographs



SETTINGS: Highest possible quality on coated paper

To test photographic quality and speed, we print six images on 6x4" glossy photo paper.

We use the highest available quality, printing without borders where supported. On printers without 6x4" media support, the six images are printed on three A4 pages.

LABS VERDICT MFPs

Fierce competition has helped to drive the cost of entry-level MFPs amazingly low. Four of the devices in this test cost less than £100. For this money you might expect a basic product, in which case Lexmark's P4350 will come as a surprise. It prints with six inks, has a colour screen, memory card slots and a PictBridge USB port. It's a shame that the quality of its results wasn't great.

If your budget is tight, we'd recommend Canon's PIXMA MP150. It's astoundingly capable for a device costing just £53. However, because of its expensive running costs it misses out on an award. HP's PSC 1510 is cheaper to run and it has a quality printer, but its scanner isn't as good.

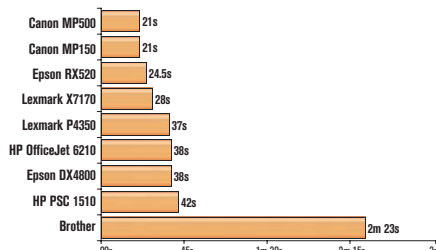
If you fancy trying your hand at creative projects, Canon's PIXMA MP500 is ideal. It has a great scanner and produces the best photos here. It is the only device in this test that can print on suitably coated CDs. It would have won a Best Buy award, but its high print costs are second only to those of the PIXMA MP150.

Brother's MFC-425CN also seems good value. It's the only device here with a network port, but its results aren't a match for the others.

If you need a compact and smart device to handle the paperwork in your home or small office, HP's OfficeJet 6210 is ideal. It delivers decent print, scan, copy and fax performance and has very reasonable running costs, too, making it this month's Best Buy. **CS**

Scanning

300dpi A4 scan



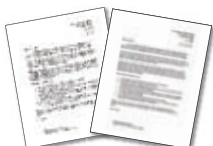
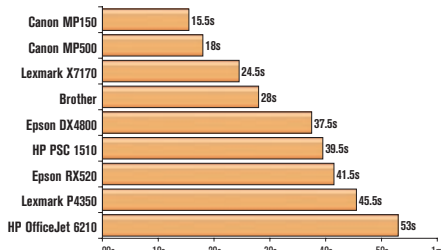
SETTINGS: 300dpi, at highest colour bit depth

We time an A4 document scan in colour at 300dpi, with the scanner lamp warmed. This is a typical scan

job, but at a high enough resolution to highlight speed differences between devices. We examine the image for detail, focus and colour accuracy.

Copying

Mono A4 copy



SETTINGS: Black and white copy at default settings

We copy an A4 page at the device's default black and white settings. We examine

the copy, and repeat the test at a higher quality if necessary. We time how long it takes for the completed copy to finish printing.

HP OfficeJet 6210





GENERAL-PURPOSE

PHOTOGRAPHY

OFFICE

MANUFACTURER	CANON	HP	EPSON	LEXMARK	EPSON	CANON	HP	LEXMARK	BROTHER
Model	PIXMA MP150	PSC 1510	Stylus DX4800	P4350	Stylus Photo RX520	PIXMA MP500	OfficeJet 6210	X7170	MFC-425CN
Rating	★★★★	★★★★	★★★	★★★	★★★★	★★★★★	★★★★★	★★	★★★
QUOTED PRINT SPEEDS									
Quoted speed, mono	22ppm	20ppm	20ppm	22ppm	20ppm	29ppm	23ppm	22ppm	20ppm
Quoted speed, colour	17ppm	18ppm	19ppm	15ppm	19ppm	19ppm	18ppm	15ppm	15ppm
TESTED PRINT SPEEDS									
Test 1 50-page text document	5m 55s (8.5ppm)	4m 2s (12.4ppm)	12m 5s (4.1ppm)	32m 38s (1.5ppm)	15m 2s (3.3ppm)	4m 17s (11.7ppm)	3m 53s (12.9ppm)	3m 33s (14.1ppm)	6m 53s (7.3ppm)
Test 1 duplex 50-page text document	N/A	N/A	N/A	N/A	N/A	11m 3 (4.5ppm)	N/A	N/A	N/A
Test 2 letter, time to first page	23.5s	19s	36s	52.5s	36s	14.5s	23s	11s	29s
Test 2 letter, total time for 50 copies	7m 34s (6.6ppm)	11m 13s (4.5ppm)	26m 54s (1.9ppm)	36m 24s (1.4ppm)	18m 33s (2.7ppm)	7m 30s (6.7ppm)	8m 36s (5.8ppm)	5m 39s (8.8ppm)	15m 53s (3.1ppm)
Test 3, mixed colour	14m 6s (1.7ppm)	12m 53s (1.9ppm)	18m 4s (1.3ppm)	27m 47s (0.9ppm)	12m 54s (1.9ppm)	10m 31s (2.3ppm)	18m 10s (1.3ppm)	17m 18s (1.4ppm)	40m 50s (0.6ppm)
Test 4 10x8" photos	8m 59s	11m 29s	23m 37s	11m 9s	22m 13s	16m 15s	16m 11s	10m 46s	36m 9s
Test 5 6x4" photos	13m 50s	13m 49s	36m 31s	16m 27s	33m 41s	23m 50s	19m 52s	15m 43s	64m 22s
TESTED SCAN SPEEDS									
Full scan area preview	7.5s	15.5s	10.5s	11s	8s	8.5s	16s	14s	29s
A4 document at 150dpi	11.5s	25s	22s	21.5s	13.5s	12s	22.5s	13.5s	50.5s
A4 document at 300dpi	21s	42s	38s	37s	24.5s	21s	38s	28s	2m 23s
6x4" print at 600dpi	30s	51.5s	39s	51s	32s	30.5s	28.5s	34s	2m 41s
6x4" print at 1,200dpi	1m 36s	1m 58s	2m 24s	3m 7s	1m 34s	1m 36s	1m 50s	Fail	4m 45s
Single 35mm negative at 2,400dpi	N/A	N/A	N/A	N/A	2m 50s	N/A	N/A	N/A	N/A
TESTED COPY AND FAX SPEEDS									
Single A4 page, mono, default quality	15.5s	39.5s	37.5s	45.5s	41.5s	18s	53s	24.5s	28s
Single A4 page, colour, default quality	51.5s	46.5s	57.5s	46.5s	43.5s	29s	54.5s	47.5s	47s
10 A4 pages (many to many), mono, default quality	N/A	N/A	N/A	N/A	N/A	N/A	7m 10s	5m 39s	3m 28s
Time to transmit two-page fax	N/A	N/A	N/A	N/A	N/A	N/A	1m 23s	1m 5s	1m 30s
PRINT AND SCAN QUALITY									
Maximum print resolution	4,800x1,200dpi	4,800x1,200dpi	5,760x1,440dpi	4,800x1,200dpi	5,760x1,440dpi	9,600x2,400dpi	4,800x1,200dpi	4,800x1,200dpi	6,000x1,200dpi
Minimum colour droplet size	2pl	5pl	3pl	3pl	2pl	1pl	5pl	3pl	3pl
Number of colours (cartridges)	4 (2)	4 (2)	4 (4)	6 (2)	4 (4)	5 (5)	4 (2)	4 (2)	4 (4)
Max number of colours (cartridges)	4 (2)	6 (2)	4 (4)	6 (2)	4 (4)	5 (5)	6 (2)	6 (2)	4 (4)
Optical scan resolution (output bit depth)	1,200x2,400dpi (48-bit)	1,200x1,200dpi (48-bit)	1,200x2,400dpi (48-bit)	600x2,400dpi (24-bit)	Film 2,400x2,400dpi, reflective 1,200x2,400dpi (24-bit)	1,200x2,400dpi (48-bit)	1,200x2,400dpi (48-bit)	1,200x4,800dpi (24-bit)	600x2,400dpi (24-bit)
PHYSICAL AND ENVIRONMENTAL									
Standard interfaces	USB Hi-Speed, PictBridge	USB, PictBridge USB	USB Hi-Speed, PictBridge USB	USB Hi-Speed, PictBridge USB	USB Hi-Speed, PictBridge USB	USB Hi-Speed, PictBridge USB, IrDA 1.2 infrared	USB, PictBridge USB	USB, PictBridge USB	USB, 10/100 Ethernet
Optional interfaces	Silex C-6400W wireless server, £129, www.silexdirect.co.uk			Lexmark N4000e 10/100 Ethernet E85, Lexmark N4050e 802.11g wireless print server £117 (both support printing only)		Bluetooth unit BU-20 £54, Silex C-6400W wireless server, £129, www.silexdirect.co.uk	HP Jetdirect 175x print server, £156	Lexmark N4000e 10/100 Ethernet E85, Lexmark N4050e 802.11g wireless print server £117 (both support printing and scanning)	
Dimensions (HxWxD)	181x442x381mm	162x434x290mm	181x430x354mm	178x493x417mm	199x432x413mm	205x448x426mm	234x450x384mm	305x491x423mm	165x373x347mm
Weight	5.4kg	5.4kg	8.5kg	4.8kg	9.6kg	9.6kg	7kg	9.4kg	6kg
Maximum noise	35dB(A)	46dB(A)	45dB(A)	48dB(A)	45dB(A)	35dB(A)	43dB(A)	55dB(A)	45dB(A)
Duty cycle (max sheets per month)	Not stated	1,000	Not stated	3,000	Not stated	Not stated	3,000	5,000	2,500
Maximum power consumption	13W	70W	10W (average)	15W	13W (average)	20W	70W	22W	18W
Power consumption standby	2W	Not stated	Not stated	8W	Not stated	2W	Not stated	8W	6.5W
PAPER HANDLING									
Maximum paper size (print)	A4/legal	A4, custom length to 610mm	A4/legal	A4/legal	A4/legal	A4/legal	A4, custom length to 610mm	A4/legal	A4/legal
Standard paper trays (capacity)	1 (100)	1 (100)	1 (not stated)	1 (100)	1 (not stated)	2 (300)	1 (100)	1 (150)	1 (100)
Output tray capacity	100 sheets	50 sheets	Not stated	25 sheets	Not stated	150 sheets	50 sheets	50 sheets	25 sheets
Automatic duplex	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	N/A
ADF capacity	N/A	N/A	N/A	N/A	N/A	N/A	20	50	10
COPY FEATURES									
Maximum number of copies	9	9	9	99	99	99	100	99	99
Zoom range	Fit-to-page	Fit-to-page	Fit-to-page	25-400 percent	Fit-to-page	25-400 percent	25-400 percent	25-400 percent	25-400 percent
Maximum mono resolution	Not stated	600x600dpi	5,760x1,440dpi	1,200x2,400dpi	5,760x1,440dpi	Not stated	600x1,200dpi	Not stated	1,200x1,200dpi
Maximum colour resolution	Not stated	4,800x1,200dpi	5,760x1,440dpi	1,200x4,800dpi	5,760x1,440dpi	Not stated	4,800x1,200dpi	Not stated	600x1,200dpi
FAX FEATURES									
Modem	N/A	N/A	N/A	N/A	N/A	N/A	33.6kbit/s	33.6kbit/s	14.4kbit/s
Maximum mono resolution	N/A	N/A	N/A	N/A	N/A	N/A	300dpi	Not stated	302x203dpi
Quoted transmission speed (mono, standard resolution)	N/A	N/A	N/A	N/A	N/A	N/A	3s per page	Not stated	6s per page
Max memory capacity (mono pages)	N/A	N/A	N/A	N/A	N/A	N/A	100	100	400
Colour fax	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes
PHOTO FEATURES									
Borderless printing	A4	A4	A4	A4	A4	A4	A4	A4	A4
Memory card support	No	No	SmartMedia, Memory Stick (Pro), xD, Secure Digital, CompactFlash	SmartMedia, Memory Stick (Pro), xD, Secure Digital, MultiMedia Card, CompactFlash, Microdrive	SmartMedia, Memory Stick (Pro), xD, Secure Digital, MultiMedia Card, CompactFlash, Microdrive	SmartMedia, Memory Stick (Pro), xD, Secure Digital, MultiMedia Card, CompactFlash	No	No	SmartMedia, Memory Stick (Pro), xD, Secure Digital, MultiMedia Card, CompactFlash
CD printing	No	No	No	No	No	Yes	No	No	No
GENERAL									
Technology	Thermal inkjet	Thermal inkjet	Piezo inkjet	Thermal inkjet	Piezo inkjet	Thermal inkjet	Thermal inkjet	Thermal inkjet	Piezo inkjet
Supplied software	Canon MP Navigator, ScanSoft OmniPage SE OCR, ArcSoft PhotoStudio	HP Image Zone, ReadIRIS OCR	Epson Creativity Suite, includes Epson Easy Photo Print and Copy utility	Lexmark Imaging Studio	Epson Creativity Suite, includes Epson Easy Photo Print and Copy utility	Canon MP Navigator, ScanSoft OmniPage SE OCR, ArcSoft PhotoStudio	HP Image Zone, ReadIRIS OCR	Lexmark Productivity Suite, includes All-in-One Centre, Lexmark Photo Editor, OCR and fax software	Brother MFL-Pro suite, ScanSoft Paperport 9, OmniPage OCR, NewSoft Presto PageManager, SYSTRAN WebTranslator 5
Supported operating systems	Windows 98/Me/2000/XP, Mac OS X 10.2.4 or later	Windows 98/Me/2000/XP, Mac OS 9.1 or later, OS 10.1.5, 10.2.3 and later, 10.3 and later	Windows 98 SE/Me/2000/XP, Mac OS 9.1 or later, 10.2 or later	Windows 98/Me/2000/XP, Mac OS X 10.2.3-10.2.8, OS X 10.3.0 or later	Windows 98 SE/Me/2000/XP, Mac OS 9 driver available for download	Windows 98/Me/2000/XP, Mac OS X 10.2.4 or later	Windows 98/Me/2000/XP, Mac OS 9.1 or later, OS 10.1.5, 10.2.3 or later, 10.3 or later	Windows 98/Me/2000/XP, Mac OS X 10.2.3-10.2.8, OS X 10.3.0 or later	Windows 98/Me/2000/XP, Mac OS 8.6-9.2, OS X 10.2.4 or later
OTHER FEATURES									
Other options		Extension to three-year RTB warranty, photo cartridge #348, £14		High-yield black cartridge #34, £14	Extension to three-year RTB or onsite warranty		Extension to three-year RTB warranty, photo cartridge #348, £14	Photo cartridge #31, £16	
PRICE AND WARRANTY									
Street price including VAT	£53	£73	£86	£60	£120	£160	£135	£135	£137
Price per mono A4 page including VAT	7.8p	2.6p	2.5p	3.7p (using #34 black cartridge)	2p	3.6p	2.6p	3.7p	2.3p
Price per colour A4 page including VAT	10.6p	5.0p	6.9p	4.7p	6p	9.6p (20%)	4.2p	4.7p	5.3p
Warranty duration and terms	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB	One year onsite
Supplier	www.misco.co.uk	www.savastore.com	www.dabs.com	www.savastore.com	www.dabs.com	www.savastore.com	www.dabs.com	www.misco.co.uk	www.dabs.com
Contact	www.canon.co.uk	www.hp.co.uk	www.epson.co.uk	www.lexmark.co.uk	www.epson.co.uk	www.canon.co.uk	www.hp.co.uk	www.lexmark.co.uk	www.brother.co.uk
Part code	05758007AA	Q5880B	C11C610012	22D0002	C11C613002	0579B007AA	Q5801B	21H0002	MFC425CNU1